Timeline for Design Challenge Class

Day 1

1. Provide each student with the design challenge planning sheet (attached below).
2. Goal: Discuss the task, show students the available materials, and answer any student questions about the task/materials. I typically keep my goal statement extremely simple, so that students will have to ask questions. (~5 mins)
3. Brainstorming: Using a timer, allow 5 minutes for brainstorming where individuals must think of 3 different solutions.
4. Design: Using a timer, allow 4 minutes for individuals to select one of their designs, then draw a diagram of their design. It must be a detailed sketch that includes labels for each of the materials.
5. Pros: Individuals have 1 minute to come up with 3 selling points for their design, which they will use to convince their group to build their design.
6. Group Design Selection: Groups have 5 minutes to share their designs, and select one to build, or may combine elements of individual designs into a new diagram.
7. Group Construction: Groups have 15 minutes to complete the task. Be sure to remind students to bring their designs with them, and that they must build only exactly what they drew in the picture.
8. Evaluation: Teacher has 5 minutes to evaluate the progress of each group toward the goal. Be sure to compare their construction with their design.
9. Clean-Up: The remaining 5 minutes are for storing projects, cleaning up workspace, washing hands, and returning to their seats.

Day 2 (optional)

1. Retrieve Materials. (~2 mins)
2. Goal: Revisit goals of the task. (~2 mins)
3. Flaws: Using the back of the design worksheet, individuals have 3 minutes to come up with 3 flaws in the design from the previous day.
4. Brainstorm Improvements: Individual students have 3 minutes to brainstorm at least one specific improvement for each the 3 specific flaws that they identified in the previous step.
5. Pros: Groups have 2 minutes to discuss and select 3 improvements or pros for their redesign.
6. Redesign: Groups have 3 minutes to draw a new diagram of their improved design.
7. Group Construction: Groups have 20 minutes to construct their new and improved designs. Be sure to remind students to bring their drawings with them, and that they must build only exactly what they drew in the picture.
8. Evaluation: Teacher has 5 minutes to evaluate the progress of each group toward the goal. Be sure to compare their construction with their design.
9. Clean-Up: The remaining 5 minutes are for cleaning up materials, washing hands, and returning to their seats.